WHAT IS CLAIMED IS:

1. An ADC (analog-to-digital converter) with adjustable bandwidth filtering functions, the ADC being disposed in an AFE (analog front end) device of a LCD controller to convert an analog signal into a digital signal, the ADC comprising:

a capacitor for sampling and holding the analog signal; and

a switch module serially connected to the capacitor, the switch module comprising a plurality of transistor switches connected in parallel, wherein the switch module selects, according to a selection code, at least one of the transistor switches as an equivalent resistor to constitute a filter circuit together with the capacitor.

2. The ADC according to claim 1, wherein the selection code is a one-of-N code, and one of the transistor switches is selected as the equivalent resistor according to the one-of-N code.

3. The ADC according to claim 1, wherein the selection code is a thermometer code, and one of the transistor switches is selected, or multiple ones of the transistor switches connected in parallel are selected as the equivalent resistor according to the thermometer code.

4. The ADC according to claim 1, further comprising a switch serially connected to the capacitor.

5. An input buffer with adjustable bandwidth filtering functions, the input buffer being disposed in an AFE (analog front end) device of a LCD controller to buffer an analog signal, the input buffer comprising:

a current source; and

a transistor module serially connected to the current source to form a source follower, the transistor module comprising a plurality of transistors connected in parallel, wherein the transistor module selects, according to a selection code, at least one of the transistors to be serially connected to the current source to form a filter circuit.

6. The input buffer according to claim 5, wherein the selection code is a one-of-N code, and one of the transistors is selected to be serially connected to the current source according to the one-of-N code.

7. The input buffer according to claim 5, wherein the selection code is a thermometer code, and one of the transistors is selected or multiple ones of the transistors are selected to be connected in parallel with each other or one another and then to be serially connected to the

current source according to the thermometer code.

8. The input buffer according to claim 5, wherein the transistor module has an input terminal serially connected to an impedance.

9. The input buffer according to claim 8, wherein the impedance is equivalent to and implemented by a transistor switch.

10. An input buffer with adjustable bandwidth filtering functions, the input buffer being disposed in an AFE (analog front end) device of a LCD controller to buffer an analog signal, the input buffer comprising:

a transistor; and

a current source module serially connected to the transistor to form a source follower, the current source module comprising a plurality of current sources connected in parallel to each other or one another, wherein the current source module selects, according to a selection code, at least one of the current sources to be serially connected to the transistor to form a filter circuit.

11. The input buffer according to claim 10, wherein the selection code is a one-of-N code, and one of the current sources is selected to be serially

connected to the transistor according to the one-of-N code.

12. The input buffer according to claim 10, wherein the selection code is a thermometer code, and one of the current sources is selected or multiple ones of the current sources are selected to be connected in parallel with each other or one another and then to be serially connected to the transistor according to the thermometer code.

13. The input buffer according to claim 10, wherein the transistor has an input terminal serially connected to an impedance.

14. The input buffer according to claim 13, wherein the impedance is equivalent to and implemented by a transistor switch.

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